

LED Trinket Tree Topper

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3D Printing

What your Christmas tree needs this year is a Trinket-LED animated Moravian Star!

Moravian Stars come in various sizes and number of facets... the most common is the 26-point form which is composed of eighteen square and eight triangular shaped points.

The star featured here is an adaption, using one of the points / facets to mount the star atop a tree.



The shape is technically known as an Augmented Rhombicuboctahedron.

Say that ten times fast...

If you favor durability, print-up your parts as-is with your favorite transparent or semi-transparent filament. If you want something lighter, you can go with one layer + zero in-fill.

<https://adafruit.it/cYv>

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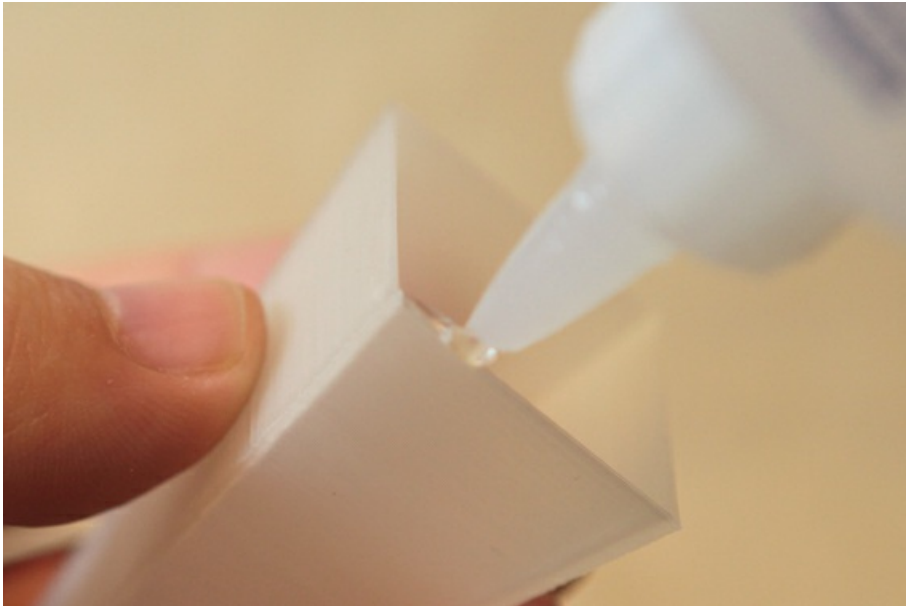
Assembly

I'm big into RC aircraft and ran into Ultimate RC Foam Glue a long time ago... it's awesome stuff. Until it was discontinued that is (major sad).

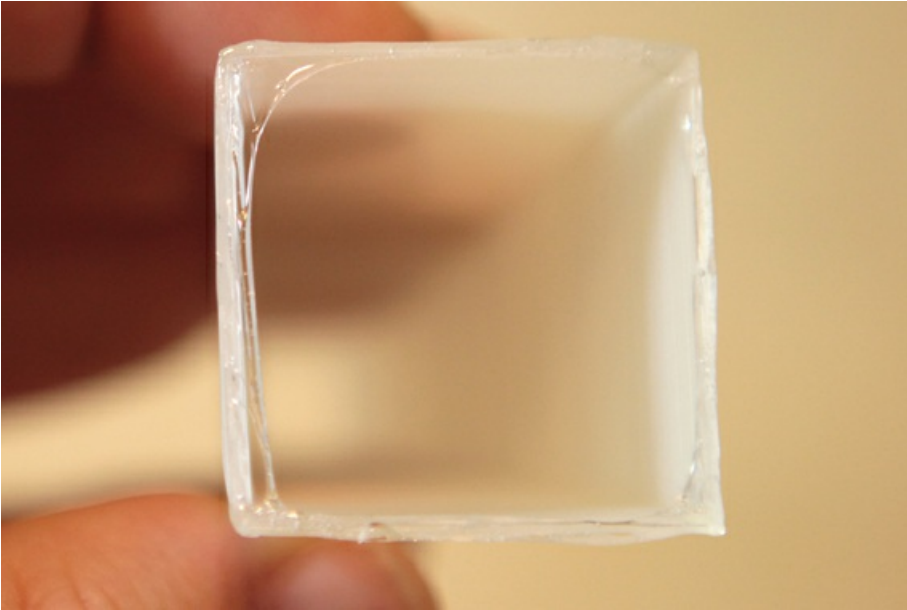
A friend of mine suggested Beacon 3-in-1; it turns out that it has many of the desirable characteristics of URCFG.



It comes out like normal glue.



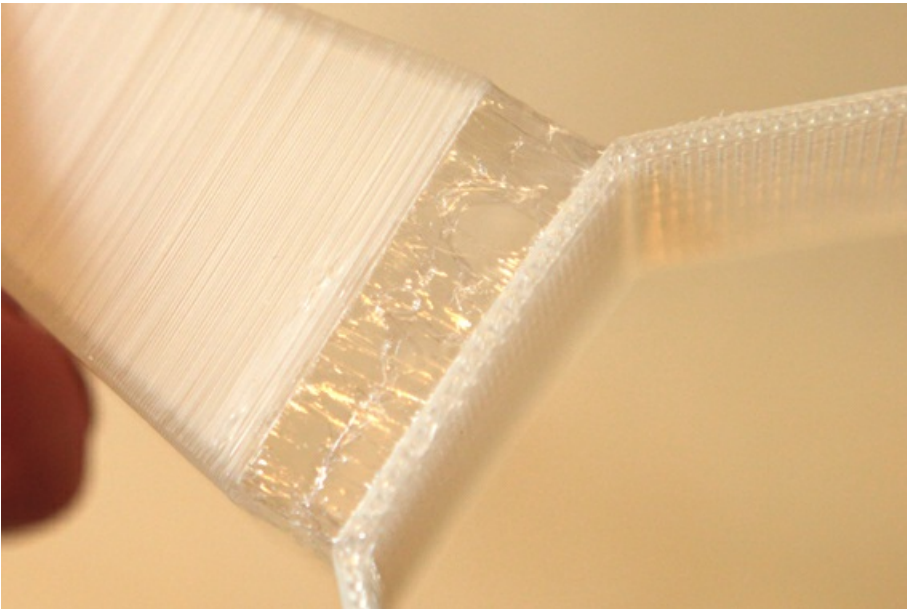
It can get a little stringy during application - make sure that you cover your entire surface with a thin coat.



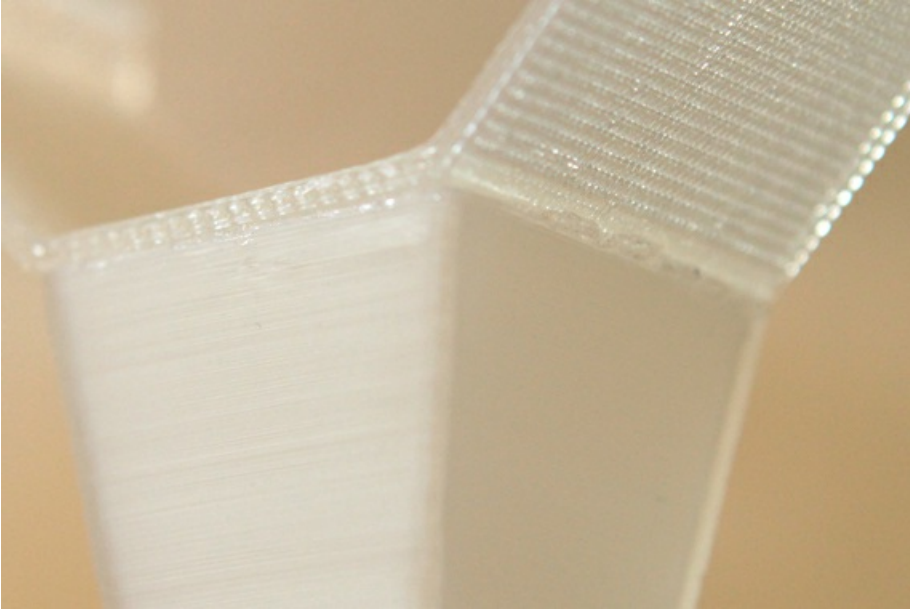
Here's the trick in application.

Press the two parts together lightly, then pull them apart two to three times - until you can feel the adhesive resist being pulled apart. You may need to blow gently on the glue a bit to help things along.

Now, press the parts firmly together; you can make small adjustments for some time after.



Glue a few segments at a time, leaving them to dry / cure for at least an hour between. The final result will be strong but slightly flexible.



Electronics

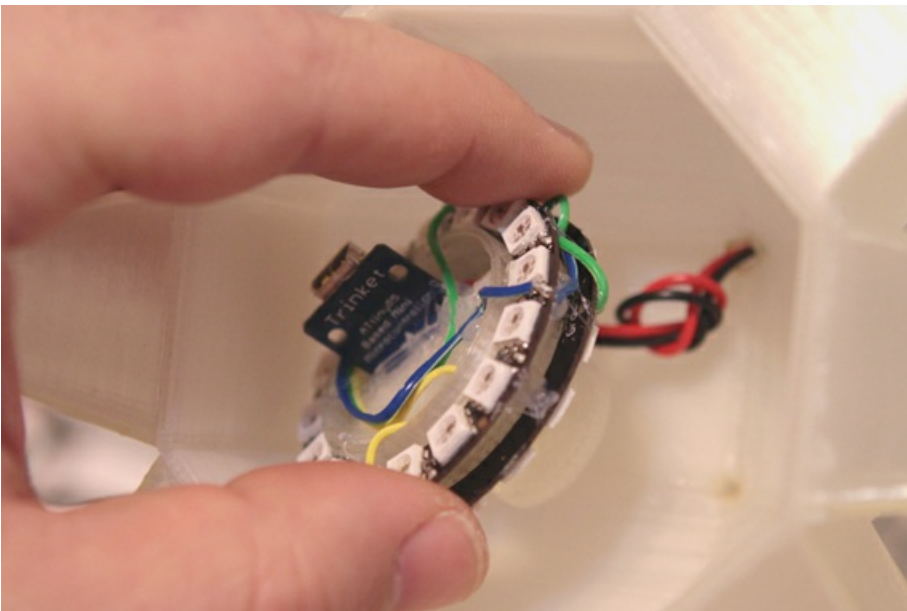
This is what I used to mount the Neo Pixel Rings inside the star...



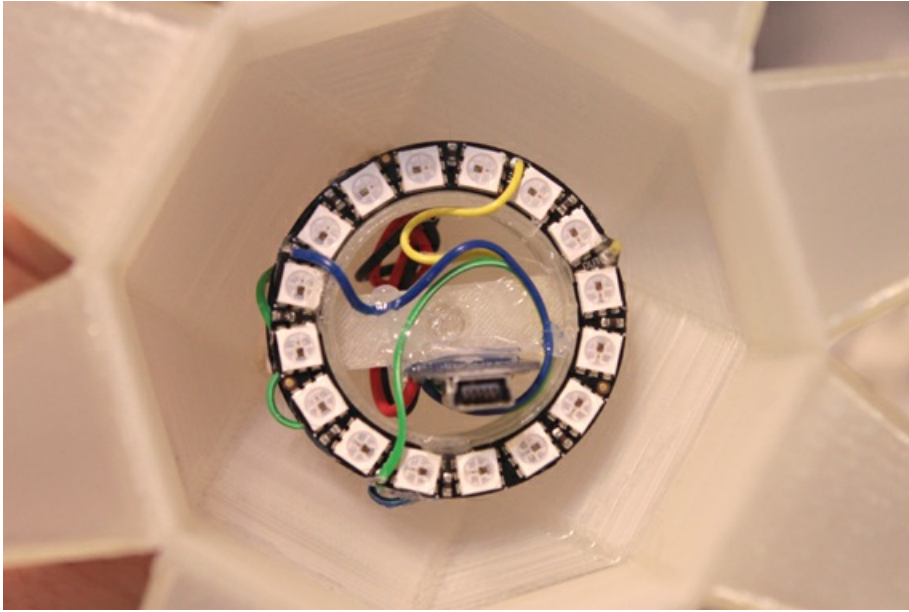
<https://adafru.it/cYw>

<https://adafru.it/cYw>

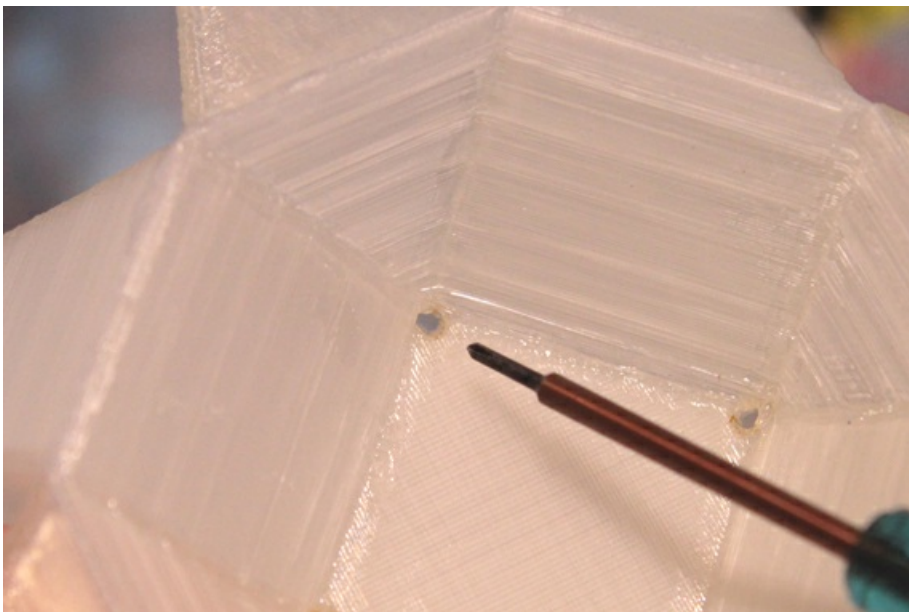
The two rings fit back-to-back with a Trinket in the middle ([here's a refresher on how to wire-up your NeoPixel Rings \(https://adafru.it/cGs\)](#)).



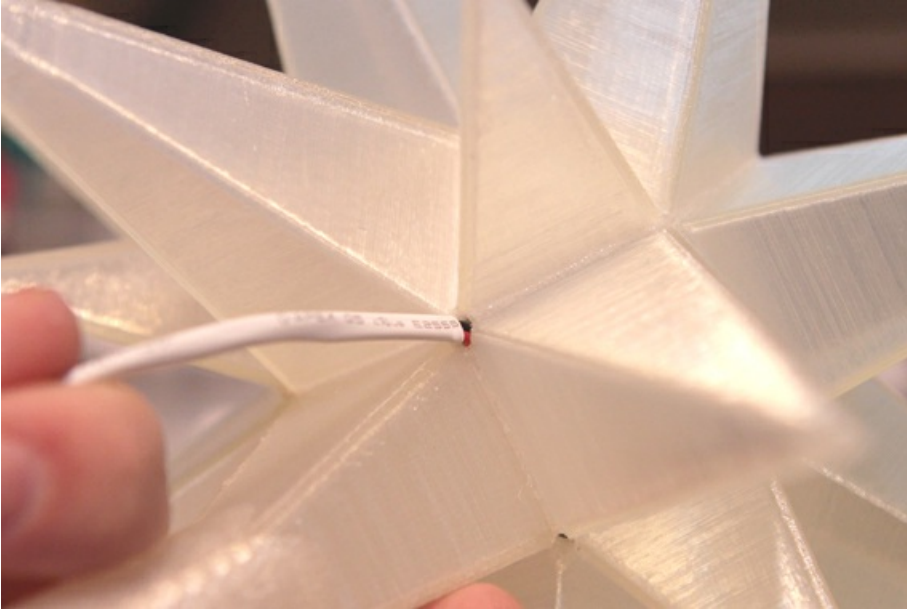
USB port pointing up for easy access...



The LED rings will get a little warm... we need to let the star 'breathe' a bit. Either drill or melt vent holes in the top and bottom of the star.



Pass your power leads through one of your vent holes on the bottom and terminate with your female DC power adapter.



What about the code?

Really... the rainbow animation in the Neo Pixel strandtest example is beautiful. If you prefer [something else \(https://adafruit.it/cRg\)](https://adafruit.it/cRg), those examples provide a great base to work with.

Decorate!

When you're done... slap that thing on the top of your tree and enjoy!

